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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,009	04/27/2001	Ajay Divakaran	MH-5071	1478

7590 05/04/2004
Patent Department
Mitsubishi Electric Research Laboratories, Inc.
201 Broadway
Cambridge, MA 02139

EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 05/04/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/845,009

Applicant(s)

DIVAKARAN ET AL.

Examiner

Andy S. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Toklu et al., (hereinafter referred to as "Toklu").

Toklu discloses a method of summarizing a compressed video (Toklu: figures 2A-2C), comprising: measuring a cumulative motion activity intensity in the compressed video (Toklu: column 9, lines 17-46); selecting key frames from the compressed video according to the cumulative motion activity measure intensity (Toklu: column 6, lines 42-60); and concatenating the key-frames in a temporal order to form a summary of the compressed video (Toklu: column 6, lines 35-41), as in claim 1.

Regarding claims 2 and 5, Toklu discloses partitioning the video into a plurality of segments (Toklu: column 5, lines 50-60; column 10, lines 5-15), each segment having a substantially equal amount of cumulative motion activity intensity (Toklu: column 10, lines 6-50); and selecting one key frame from each segment (Toklu: column 10, lines 51-63), as in the claims.

Regarding claims 3-4, Toklu discloses that the number of segments is one less than a number of desired key-frames in the summary (Toklu: column 10, lines 40-45), as in the claims.

Regarding claims 6-8, Toklu discloses that the motion activity intensity is measured from an average motion vector magnitude (Toklu: column 11, lines 35-67), a median motion vector magnitude (Toklu: column 9, lines 53-57), and a standard deviation of the motion vector magnitude (Toklu: column 10, lines 35-45), as in the claims.

Regarding claim 9, Toklu discloses partitioning the compressed video into a plurality of segments according boundaries (Toklu: column 5, lines 40-45), as the claim.

Regarding claim 10, Toklu discloses partitioning the compressed video into a plurality of segment using a binary partitioning (Toklu: column 5, lines 50-55) based on the cumulative motion activity intensity (Toklu: column 9, lines 55-60), as in claim.

Toklu discloses a method for generating a progressive summary of a compressed video (Toklu: figures 2A-2C), comprising: selecting key frames in a progressive ordering from the compressed video according to the cumulative motion activity measure intensity (Toklu: column 6, lines 42-60); concatenating the key-frames in a temporal order to form a summary of the compressed video (Toklu: column 6, lines 35-41), the progressive ordering further comprising: selecting a first frame of the compressed video as first key-frame (Toklu: column 7, lines 10-15); selecting a last frame of the compressed video as a second frame (Toklu: column 7, lines 10-15); measuring a cumulative motion activity intensity in the compressed video (Toklu: column 9, lines 17-46), and selecting a middle frame from the compressed video according to the cumulative motion activity intensity as a third key frame (Toklu: column 12, lines 50-65); partitioning the compressed video (Toklu: column 5, lines 50-60) into two equal segments (Toklu: column 10, lines 13-20) according to the motion activity intensity (Toklu: column 9, lines 45-55), and selecting a middle frame according to the cumulative motion activity intensity of each segment as fourth key frame and a fifth key frame (Toklu: column 12, lines 50-65); and iteratively partitioning each previously partitioned segment into two smaller sized segments according to the motion activity intensity, and selecting further middle frames according to the motion activity from each smaller sized segments as two next key-frames until the termination condition is reached (Toklu: column 10, lines 30-50), as in claim 11.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jain discloses a similarity engine for content-based retrieval of images. Sezan discloses an AV information management system. Dow discloses a method and system to generate a complicated computer animation.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (703)-305-4813. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (703)-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao
Primary Examiner
Art Unit 2613

ANDY RAO
PRIMARY EXAMINER



asr
April 30, 2004